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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,453	07/29/2003	Jack D. Keene	RBN-001DV	5725

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EXAMINER	
MARVICH, MARIA	
ART UNIT	PAPER NUMBER
1633	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,453	KEENE ET AL.	
	Examiner	Art Unit	
	Maria B. Marvich, PhD	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2006 and 30 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/30/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 1/3/06 and 10/30/06 have been entered.

Claim Objections

Claim 1 is objected to because of the following informalities: in line 11, claim 1 recites "identifying the plurality of RNAs or other components associated with the RNP complexes" whereas the preamble does not recite that these "other components" are to be identified other components defined in the claims as nucleic acids, RNAs, mRNAs, RNA binding proteins, RNA associated proteins, carbohydrates, lipids and vitamins. In order to overcome this objection, it would be remedial to include the phrase -- and other components associated with the RNP complexes -- in the preamble. However, it is noted that the claim may not be enabled for identification of "other components associated with RNP complexes for reasons indicated below.

Claims 8 and 9 are objected to because of the following informalities: claims 8 and 9 recite use of a ligand that is an antibody "isolated using the serum of a subject". However, for accuracy, it would be remedial to recite -- isolated from the serum of a subject-- .

Claim 23 is objected to because of the following informalities: claim 23 recites "further comprising the step of identifying the RNA bound within the RNP complex by separating the RNA from the RNP complex". It would be more accurate to recite -- wherein the step of

identifying the plurality of RNAs bound within the RNP complex comprises separating the RNA from the RNP complex -- as claim 23 is actually not further limiting of claim 1 but rather elucidates further the step of identifying recited in claim 1.

Claims 28 and 29 are objected to because of the following informalities: claims 28 and 29 recite that the method of claim 1 "further comprises cross-linking the RNP complex" but does not indicate what is being cross-linked together. It would be remedial to recite -- cross-linking the RNP complex components together -- to provide a description of what is actually cross-linked. Appropriate correction is required.

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite in that the metes and bounds of "A method of identifying a plurality of RNA-protein (RNP) complexes" are unclear. The method steps that follow this preamble only stipulate that a plurality of RNAs or other components are identified and hence there are no steps set forth for identification of an RNP complex. As such it is not clear if the step of separation and collection of the RNPs are sufficient for identification or if the RNP or RNP and all associated components are required to identify the RNPs. The dependent claim(s) are included in the rejection because they fail address or clarify the basis of the rejection as

discussed in detail for the independent claim(s). **This is a new rejection necessitated by applicants' amendment.**

Claim 1 is vague and indefinite in that the metes and bounds of "an RNP complex" in line 4 are unclear. The biological sample comprises a plurality of RNP complexes and therefore by recitation of "an RNP complex", any one of the RNP complexes is bound by ligand or if all of the RNP complexes are bound by ligand. If it is the later, it is unclear if the same ligand is sufficient for identification of a plurality of cellular RNA protein complexes. As well, it is unclear if this indicates that the plurality of RNP complexes are actually duplicate or multiple copies of the same type of RNP complex. The dependent claim(s) are included in the rejection because they fail address or clarify the basis of the rejection as discussed in detail for the independent claim(s). **This is a new rejection necessitated by applicants' amendment.**

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: specifically, lack of a step of processing sample that would allow for the contact of ligand with biological sample when the sample comprises according to the claims neurons, tumor, whole organ, whole tissue or cells, which is exacerbated by the fact that the claims do not indicate from what the complexes are separated in the step of "separating RNP complexes by binding the ligand with a binding molecule specific for the ligand, wherein the binding molecule is attached to a solid support". As well, it is not clear how collection of the RNP complexes, removal of the RNP complexes from the solid support and identification of RNAs will occur in neurons, tumor, whole organ, whole tissue or cells. For such a step to occur, the cells or organ or tissue would need to be lysed and the RNAs separated form the RNP

complex . In essence, without such a step, the RNP complex is bound to support and then released form the support and it is not clear how the RNAs can be identified. The dependent claim(s) are included in the rejection because they fail address or clarify the basis of the rejection as discussed in detail for the independent claim(s). **This is a new rejection.**

Claim 24 is vague and indefinite in that the metes and bounds of "said identifying step is carried out on a microarray" are unclear. It is not clear how the steps recited in claim 23 of separating the RNA from the RNP complex, the step of obtaining cDNA of the RNA and then sequence of the cDNA is accomplished on a microarray. Furthermore, when using the term "said" it is more appropriate to duplicate any terms following "said" exactly. Otherwise, "said" is replaced with the term "the". In this case, claim 23 actually recites "the step of identifying". **This is a new rejection.**

Claim Rejections - 35 USC § 112, first paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method comprising 1) contacting a biological sample with ligand specific for an RBP/RAP or mRNA of an mRNP complex 2) in which the sample is an extract or processed into an extract for separation of the mRNP complex and binding to a binding molecule bound to a solid support and collecting of the mRNP complex, does not reasonably provide

enablement for any other embodiment. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. **This is a new rejection.**

The test of enablement is whether one skilled in the art could make and use the claimed invention from the disclosures in the patent coupled with information known in the art without undue experimentation (*United States v. Telectronics, Inc.*, 8 USPQ2d 1217 (Fed. Cir. 1988)). Whether undue experimentation is required is not based on a single factor but is rather a conclusion reached by weighing many factors (See *Ex parte Forman*, 230 USPQ 546 (Bd. Pat. App. & Inter, 1986) and In *re Wands*, 8USPQ2d 1400 (Fed. Cir. 1988); these factors include the following:

1) Nature of invention. The instant claims are drawn to a method of identifying RNA-protein complexes for purposes of identifying the subsets of RNAs associated with the complex.

2) Scope of the invention. The scope of claim 1 is extremely broad in that any sample comprising a plurality of RNP complexes are contacted with any ligand specifically interacting with any component of the complex. Any binding molecule bound to solid support is used to isolate ligand. The complexes are collected and the RNAs or any other component associated with the RNP is identified. In claims 2-7, the sample is said to be whole tissue, whole organ, cells, tumor cells, cellular extracts, tumor cell extracts or neurons. In claims 8-10, 25 and 26 the ligand is said to be specific to nucleic acid (RNA, MRNA, Mature mRNA), RBP, RAP, carbohydrate, lipid and vitamin. A specifically recited ligand is an ELAV/Hu protein.

3) Number of working examples and guidance. The specification discloses methods of identifying and characterizing mRNP complexes as a means to identify pattern recognition

profiles that are characteristic of the RNA structural or functional networks in the sample. The invention is based upon the premise that a subset of mRNA associated with an RBP or RAP and the complex is an identifier of the cell and the subset of RNA present in the ribonomic profile form a distinct subset that may be associated with a particular cell cycle, stage of differentiation, apoptosis or stress induction, viral infection or cancer. The specification teaches that the cell can comprise endogenous RBP/RAP or can be transfected RBP/RAP. The complex in the cell is contacted with a ligand that is said to be an antibody, nucleic acid, RNA binding protein, RNA associated protein or any other ligand that binds any component of the complex. The ligand can be tagged. The binding molecule can be an antibody or protein A or G or streptavidin and is attached to a solid support such as a pin, bead, column or plate. The specification teaches that the complex is washed off of the solid support under stringent conditions. Methods of identifying the RNA once the complex is isolated include use of cDNA microarray grids, also referred to as sequencing by hybridization, differential display, phage display analysis, SAGE or preparation of cDNA libraries from the mRNA followed by sequencing. The exemplification of the instant methods is demonstrated with Murine P19 transfected cells expressing a g10 tagged HuB protein. Following transfection, cell-free extracts were prepared and HuB immunoprecipitated by protein A beads. The beads were washed and the RNAs collected by phenol/chloroform/isoamyl alcohol extraction. The RNAs were analyzed by RNase protection assays and by cDNA arrays. Identification of multiple mRNP complexes was demonstrated by isolation of HuB, eIF-4E and PABP complexes.

4) State of the art and unpredictability of the art. The MPEP teaches, "However, claims reading on significant numbers of inoperative embodiments would render claims non-

enabled when the specification does not clearly identify the operative embodiments and undue experimentation is involved in determining those that are operative. Atlas Powder Co. v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984); In re Cook, 439 F.2d 730, 735, 169 USPQ 298, 302 (CCPA 1971). (see MPEP 2164.08(b).

1) The ability to separate and collect components that are found in whole tissue, organ, cells, neurons or tumors would be highly unpredictable absent a step to liberate the components such as by cellular lysis. The separation step requires that a binding molecule bound to a pin or bed or plate or column be in contact with the ligand. Given the cellular compartments and lack of passage into the cell for large structures, it is not possible to perform such a step absent a lysate or extract or cell-free environment. As well, the method requires "collection" of the RNP and in claim 23 the step of identifying the RNA involves separating the RNP complex, obtaining of cDNA and sequencing of the cDNA and in claim 24, identification ion a microarray. The step of separation is disclosed to be washing components off of the solid support under stringent conditions. None of these recited steps can be performed in the context of whole cells, tissues or organs. Therefore, the method requires a step of extraction of the cellular components for these claims or use of an extract or lysate.

2) As guidance the specification teaches, "the ligand may be any molecule that specifically binds the component of the mRNP complex. For example, the ligand may an antibody that specifically binds the component, a nucleic acid that binds the component (e.g., an antisense molecule, a RNA molecule that binds the component), or any other compound or molecule that specifically binds the component of the complex". Hence, ligands for RBP or RAP can be formulated such as an antibody specific for the protein or specific for a tag on the

protein. As well should the target of the ligand be an mRNA component of the complex, ligands that could be used in the method can be RBP, RAP as well as antisense nucleic acids. However, it is highly unpredictable that any ligands specific for carbohydrates, vitamins or lipids could be identified for use in the invention. Furthermore, the identification of nucleic acids in general, other then mRNA, is such an underdeveloped art that it would be highly unpredictable that any of these are known enough to be used as a specific ligand in the instant methods. Hence, it is highly unpredictable that the method will perform as recited using a ligand specific for any component of the RNP. Rather, the ligand must be specific for either an RBP/RAP or mRNA. The unpredictability of using any ligand is exacerbated by the need for a binding molecule specific for the ligand. In the case that a carbohydrate is targeted by a ligand, the unpredictability of identity of a ligand for binding is exacerbated by the added need to find a binding molecule that will bind the ligand and a solid support.

Given the lack of guidance in the specification, the large and diverse group of treatments recited and the highly unpredictable nature of the art, it is concluded that a person of skill in the art would have had to conduct undue experimentation in order to practice the claimed invention.

5) Amount of Experimentation Required. In view of the unpredictability of the art of predicting ligands for any component that is a part of the mRNP complex and for separation and collection of cellular components in whole tissue, organ or cells: undue experimentation would be required to practice the claimed methods with reasonable expectation of success, absent a specific and detailed description in the specification. Given the unpredictability of the art, the lack of adequate working examples and the lack of guidance provided by applicants, the skilled

artisan would have to have conducted undue, unpredictable experimentation to practice the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 8, 11, 17, 26 and 29 are rejected under 35 USC 102(b) as being anticipated by Allen et al (MCB, 1998, Vol 18, pages 6014-6022; see entire document) as evidenced by Sbicego et al (Eukaryotic Cell, 2003, pages 560-568). **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment.**

Allen et al teach a method in which mitochondrial extract are contacted with ligand (purified MAbs as recited in claim 8) and Dynabeads coated with goat anti-mouse IgGs (binding molecule bound to a solid support as recited in claim 11) was used to isolate and hence separate the gBP21 (RBP as recited in claim 17) and associated RNAs (RNP) from the cellular components (see e.g. page 6015, col 2, paragraph 5 and page 6017, col 2, paragraph 3). From resulting complexes, the gRNA, mRNA and proteins associated with gBP21 (plurality of RNAs and other components) were identified from the complex as recited in claims 1, 2 and 26 (see e.g. page 6019, col 1, ¶ 1. UV-cross-linking was performed after immunoprecipitation as recited in

claim 29 (see e.g. page 6016, col 1, paragraph 5). As evidenced by Sbicego et al, mitochondrial extracts in addition to comprising gBP21 also comprise at least RBP38, which forms an mRNP complex (see e.g. Sbicego et al, abstract).

Claims 1, 2, 5-8, 12-17, 25 and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Antic et al (Genes and Development, 1999, Vol 12, page 449-461; see entire document) as evidenced by Hillman et al (US Patent 5,955,299) and Lazarova et al Oncogene (1999) 18, 2703 - 2710. **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment.**

Antic et al teach a method in which cell lysates of human teratocarcinoma hNT2, which can differentiate into neurons as recited in claims 5-7 (see e.g. page 458, column 2, paragraph 2 and page 450, col 2, paragraph) are contacted with transfected Hel-N1 (or HuB as recited in claim 25) and then which contacts nucleic acid or RNA or mRNA as recited in claims 13-15 and separated by addition of anti-g10 and protein A beads (page 458, column 2, paragraph 2) (binding molecule bound to a solid support as recited in claims 11 and 12). From the resulting complexes, RNAs were identified (plurality of RNAs) were identified from the complex as recited in claims 1, 2 and 26 (see e.g. page 458, column 2, paragraph 2-41). As evidenced by Hillman et al, human teratocarcinoma hNT2 in addition to comprising HelN-1 also comprise at least HSMPB, an snRNP that binds RNA (see e.g. col 4, line 43-45). As evidenced by Lazarova et al, Hel-N1 associates with mature myc mRNA as recited in claim 16.

Claims 1, 2, 8, 12, 17, 26 and 27 are rejected under 35 U.S.C. 102(a) as being anticipated by Reim et al (Experimental Cell Research, 1999, Vol 253, pages 573-586; see entire document) as evidenced by Harper et al, (NAR, 1992, Vol. 20, No. 14 3645-3650). **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment.**

Reim et al teach a method in which Kc cell extracts are contacted with a plurality of antibodies such as NonA monoclonal antibody Bj6, S5, X4, P11 as well as ascites fluid as recited in claims 8 and 27 and immunoprecipitated with protein A Sepharose (binding molecule bound to a solid support as recited in claim 12) (page 574,column 2, paragraph 3 and page 577, col 2, paragraph 2). From the resulting complexes, RNA molecules complexed to NonA protein (plurality of RNAs) were identified from the complex as recited in claims 1, 2 and 26 page 574, column 2 paragraph 4 and 5). RNA analysis was performed by slot blot analysis (page 581, column 2, last full paragraph). As evidenced by Harper et al, Kc cells in addition to comprising NonA also comprise at least snRNPs that binds RNA (see e.g. page 3465, col 2, ¶ 2-3).

Claims 1, 2, 6-9, 12, 17, 23, 26 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Keene et al. US (5,773,246; see entire document). **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment.**

Keene et al teach a method in which Medullablastoma cell extracts, neuralectodermal tumor-derived cells as recited in claims 1, 2, 6, 7 and 26 (see e.g. col 27, line 29-35) are incubated with rabbit anti-Hel N1 antibodies as recited in claims 8 and 27 and Hel-N1 was

immunoprecipitated with Staph A Sepharose beads (column 27, line 29-35) or binding molecule bound to a solid support as recited in claim 12 and 17. Bound RNAs were recovered by ethanol precipitation and a cDNA-subset library was prepared and the sequences determined by sequencing (column 28, line 1-20) as recited in claim 23. Furthermore, Keene et al teach substitution of antibodies from sera of patients with cancer to immunoprecipitate Hel-N1 as recited in claim 9 (see e.g. col 21, line 26-35). The specification teaches that for easily degraded RNAs, the RNA can be crosslinked to the mRNP complex (see e.g. col 20, line 37-47) as recited in claim 28. Medulloblastoma comprise a plurality of RNPs (see e.g. col 28, line 1-20) in that the cells comprise both Hel-N1 and Help-N2.

Claims 1-6, 12, 17 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Buckanovich et al (Molecular and Cellular Biology, June 1997, pages 3194-3201; see entire document) as evidenced by Yang et al, Biology of Reproduction, 68, 853–859 (2003). **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment. Upon reconsideration the rejection has been extended to claims 19-21 based upon applicants disclosure.**

Buckanovich et al teach a method in which Adult mice brain nuclei and NOVA-1 are contacted with affinity purified rabbit anti-Nova-1 antibodies as recited in claim 8 and immunoprecipitated with protein A Sepharose (binding molecule bound to a solid support as recited in claim 12) (page 3195,column 1, 3rd paragraph). From the resulting complexes, RNA molecules complexed to the neuronal protein Nova-1 (plurality of RNAs) were identified from

the complex as recited in claims 1-6 and 26 (page 3195,column 1, 3rd paragraph). RNA analysis was performed by RT-PCR to assay glycine receptor 2, Nova-1, HuD, HelNI, clathrin, brain specific Na+ channel (page 3195, column 2, last full paragraph). NOVA-1 has a Kd of about 10^{-8} to 10^{-9} (see column 1, page 3196) as recited in claims 19-21. As evidenced by Yang et al, mice brain nuclei in addition to comprising Nova-1 also comprise at least the RNA binding protein TB-RBP (see e.g. page 856, col 2, ¶ 3).

Claims 1, 2, 8, 10, 12, 18, and 26 are rejected under 35 U.S.C. 102(a) as being anticipated by Takeda et al (J Immun, 1999, Vol 163, pages 6269-6274) as evidenced by Jansen et al (FASEB J. 13, 455–466, 1999). **This rejection is maintained for reasons of record in the office action mailed 12/1/04 and 7/28/05 and restated below. The rejection has been reworded based upon applicants' amendment.**

Takeda et al teach a method in which Hela cell samples are contacted with ligand (antibody from the sera of patients with autoimmune disorders as recited in claims 8, 10 and 18) from which lysates were prepared and protein A sepharose beads (binding molecule bound to a solid support as recited in claim 12) was used to isolate and hence separate the RNP from the cellular components(see e.g. page 6269, col 2, paragraphs 3-4). The RAP (other component) was identified from the complex as recited in claims 1, 2 and 26 see e.g. figure 2. As evidenced by Jansen, Hela cells in addition to comprising PA also comprise at least mrnp41, which forms an mRNP complex (see e.g. Jansen, page 462, col 2, ¶ 2).

Response to Argument

Applicants traverse the claim rejections under 35 U.S.S 102 in the amendment filed 10/30/06. Applicants argument filed 10/30/06 have been fully considered but they are not persuasive. First to applicants arguments that Allen et al, Antic et al, Takeda et al, Keene et al, Buckanovich et al and Reim et al that the references do not teach collecting a plurality of RNP complexes and do not teach identifying a plurality of RNAs or other components associated with RNP complexes. The claims do not recite that a plurality of RNP complexes are collected only that the RNP complexes are separated by binding the ligand with binding molecule. As a ligand is used, it is unclear how all of the plurality of complexes can be collected. Hence, it appears that a complex of RNAs and proteins meets the limitation that the RNP complexes are bound by ligand absent an explicit recitation that ligands are sued to collect all or more then one RNP complex. Furthermore, the term RNP complexes can be broadly understood to read on an RBP/RAP bound to components in that there is no reason to believe that the same complex is present in multiple copies in the cell. Secondly, each of the references has demonstrated that either a plurality of RNAs are identified or else other components are identified and these components are listed for each rejection in the rejection. For example, Buckanovich et al teach identification of glycine receptor 2, Nova-1, HuD, HelNI, clathrin, brain specific Na+ channel and Allen et al teach identification of mRNAs and gRNAs. Applicants further argue for Keene et al that RNP complexes are not isolated rather an RBP is isolated. However, applicants have not addressed the rejection of the claims based upon teachings that Medulloblastoma cell extracts comprising mRNP complexes were immunoprecipitated by ligand and separated by biding molecule.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria B. Marvich, PhD whose telephone number is (571)-272-0774. The examiner can normally be reached on M-F (7:00-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach, PhD can be reached on (571)-272-0739. The fax phone numbers for the organization where this application or proceeding is assigned are 571-=273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the patent analyst, Zeta Adams, whose telephone number is (703) 308-01963291.

Maria B Marvich, PhD
Examiner
Art Unit 1633